# UNITED STATES PATENT AND TRADEMARK OFFICE

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/911,139 | 07/23/2001 | Ruediger Bauder | BAUDER 1-1-1 | 2375 |

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| ART UNIT | PAPER NUMBER |
|---|---|
| 2631 | |

DATE MAILED: 09/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

| | | Application No. | Applicant(s) | |
|---|---|---|---|---|
| ***Advisory Action*** <br> ***Before the Filing of an Appeal Brief*** | | 09/911,139 | BAUDER ET AL. | |
| | | Examiner | Art Unit | |
| | | Khanh Tran | 2631 | |

*--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

THE REPLY FILED <u>29 August 2005</u> FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

    a) ☐ The period for reply expires _____months from the mailing date of the final rejection.

    b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

      Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

<u>NOTICE OF APPEAL</u>

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

<u>AMENDMENTS</u>

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will <u>not</u> be entered because

    (a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);

    (b) ☐ They raise the issue of new matter (see NOTE below);

    (c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or

    (d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

      NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).

5. ☐ Applicant's reply has overcome the following rejection(s): _____.

6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).

7. ☒ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

    The status of the claim(s) is (or will be) as follows:

    Claim(s) allowed: _____.

    Claim(s) objected to: _____.

    Claim(s) rejected: <u>*1-20*</u>.

    Claim(s) withdrawn from consideration: _____.

<u>AFFIDAVIT OR OTHER EVIDENCE</u>

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will <u>not</u> be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).

9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will <u>not</u> be entered because the affidavit or other evidence failed to overcome <u>all</u> rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).

10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

<u>REQUEST FOR RECONSIDERATION/OTHER</u>

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: <u>See Continuation Sheet.</u>

12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08 or PTO-1449) Paper No(s). _____.

13. ☐ Other: _____.

Continuation of 11. does NOT place the application in condition for allowance because: Regarding to Applicant's arguments in Part I of the Remarks/Arguments, on page 3 that the trainer subsystem 605, is not a receive train of a transceiver. On the contrary, the trainer subsystem 605 is a dedicated feedback loop of the transmitter 400 that receives output signals from the power amplifier and performs the appropriate down conversions thereon and provides the converted output signal to the trainer 431.

Examiner's position is that the recited arguments are true in some embodiments according Cova teaching. However, as recited in the Final Rejection and is repeated again that in column 3, lines 25-35, in accordance with other aspects of Cova invention, the direct inverse modeling scheme uses "orthogonal signals for training". In column 9 line 65 via column 10 line 15, FIGS. 5, 5A and 5B illustrate the concept of direct inverse modeling. The trainer 431 includes the direct inverse modeller 503. The inverse of the power amplifier transfer characteristic is modeled as a non-linear "filter" with the input and output leads interchanged. The output signal of the power amplifier is considered the input to the non-linear "filter", whereas the input signal of the power amplifier is considered the output of the non-linear "filter", as shown in FIG. 5A. Furthermore, in column 6 line 57 via column 7 line 10, Cova expresses that the trainer typically provides one or more "trainer" signals to the predistorter to update the predistorter's response to the in-phase and quadrature signals input to the predistorter as the power amplifier's response changes due to temperature, age, etc. In view of that, because the trainer provides more trainer signals to update the predistorter's response as the power amplifier's response changes due to temparature, age, ..., the trainer is a receive train of the transceiver in training mode. As also recited above, the direct inverse modeling scheme can provide "orthogonal signals for training" and the direct inverse modeler 503 shown in figure 3 receives as an input the output signal of the power amplifier. In view of that, the trainer subsystem is a receive train of the transceiver in training mode, contrary to Applicant's arguments.

Regarding to Applicant's arguments in Part I on page 3 that Wessel does not cure the deficiency of Cova. Wessel makes no teaching or suggestion that the predistortion circuit is a receive chain of a transceiver.

Examiner's position is that Applicant's arguments are moot because Wessel et al. teachings are relied on to show that predistortion technique is inherently wide band, therefore, one of ordinary skill in the art would have been motivated to apply Cova teachings to wideband applications, e.g. WCDMA, which is missing in Cova teachings.

Regarding to Applicant's arguments in Part I on page 4 that Cova, however, specifically discloses the trainer is employed during normal transmission by the transmitter 400, see column 7, lines 8-14.

Examiner's position is that in column 6 line 57 via column 7 line 10, Cova expresses that the trainer typically provides one or more "trainer" signals to the predistorter to update the predistorter's response to the in-phase and quadrature signals input to the predistorter as the power amplifier's response changes due to temperature, age, etc. In light of the aforementioned teachings, the trainer also operates in training mode to update the predistorter's response as the power amplifier's characteristics change over time due to temperature, age, etc.

Regarding Applicant's arguments in Part I on page 4 that as stated in the previous response, the antenna is disconnected from a transmit chain during the training mode.

Examiner's position is that the claim does not claim the antenna is disconnected from a transmit chain during the training mode.

Regarding to Applicant's arguments in Part II that the Applicant do not find where Park, Ha or Miyashita teach or suggest employing receive chain of a WCDMA transceiver during a training mode to provide a digital compensation signal that is a function of an output of a transmit chain as recited in independent Claims 1 and 8.

Examiner's position is that Park, Ha and Miyashita teachings are not relied on to teach the receive chain of a WCDMA transceiver during a training mode as argued by Applicant. The teachings are relied on to show various limitations in dependent claims can be implemented in Cova teachings as being obvious for one of ordinary skill in the art at the time of the invention.

Regarding Applicant's arguments in Part III on page 5, the Examiner's position is similar to the response to Applicant's arguments in Part II. Furthermore, Cova teaches employing a receive chain of a WCDMA transceiver during a training mode as recited above.

Examiner's poisition is that as discussed above, Cova teachings teach the trainer can operate in the training mode as a receive chain of the transceiver to to update the predistorter's response as the power amplifier's characteristics change over time due to temperature, age, etc. Park, Wessel and Ha teachings are not relied on to teach the receive chain of a WCDMA transceiver during a training mode as argued by Applicant. The teachings are relied on to show various limitations in dependent claims can be implemented in Cova teachings as being obvious for one of ordinary skill in the art at the time of the invention.

_Khanh cong Tran_                   09/15/2005

Examiner KHANH TRAN